

Title (en)  
SEMICONDUCTOR MEMORY DEVICES FOR USE IN ELECTRICALLY ALTERABLE READ ONLY MEMORY (ROM) AND SEMICONDUCTOR THIN FILM DEVICES (SPINTRONS AND SPIN-ORBITRONS)

Title (de)  
HALBLEITERSPEICHERANORDNUNGEN ZUR VERWENDUNG IN EINEM ELEKTRISCH VERÄNDERLICHEN FESTSPEICHER (ROM) UND HALBLEITER-DÜNNSCHICHTVORRICHTUNGEN (SPINTRONS UND SPIN-ORBITRONS)

Title (fr)  
DISPOSITIFS DE MÉMOIRE À SEMI-CONDUCTEURS DESTINÉS À ÊTRE UTILISÉS DANS UNE MÉMOIRE ÉLECTRIQUEMENT MODIFIABLE (ROM) ET DISPOSITIFS À FILM MINCE À SEMI-CONDUCTEUR (SPINTRONS ET SPIN-ORBITRONS)

Publication  
**EP 3151294 B1 20190529 (EN)**

Application  
**EP 15198071 A 20151204**

Priority  
US 201514618277 A 20150210

Abstract (en)  
[origin: US2016233420A1] An electrically alterable thin film memory device which can be switched from a high resistance state to a low resistance state. The device increases the concentration of electrically active impurities at correspondent electrodes to which respect impurities would electro migrate during a large number of set-reset cycles. The device comprises a layered structure with memory layers formed on an interface of two regions as the result of the mutual mixing and migration of their constituents. One region contains an electrically active donor impurity. A thin layer of dielectric is placed in the other region. Each of the memory layers includes an interface of chalcogenide films.

IPC 8 full level  
**H01L 45/00** (2006.01)

CPC (source: EP RU US)  
**H10N 70/245** (2023.02 - EP US); **H10N 70/253** (2023.02 - EP US); **H10N 70/801** (2023.02 - EP US); **H10N 70/826** (2023.02 - EP US); **H10N 70/8828** (2023.02 - EP US); **H10B 69/00** (2023.02 - RU)

Cited by  
US10658584B2; EP3171417B1

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)  
**US 2016233420 A1 20160811**; EP 3151294 A1 20170405; EP 3151294 B1 20190529; RU 2016103994 A 20160820; RU 2618959 C2 20170511

DOCDB simple family (application)  
**US 201514618277 A 20150210**; EP 15198071 A 20151204; RU 2016103994 A 20160208